

Amendments to the claims,

Listing of all claims pursuant to 37 CFR 1.121(c)

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method for performing database operations on data obtained from a web service, the method comprising:
 - creating at least one proxy table in a database, each proxy table mapping to a method of the web service;
 - in response to a database operation on a particular proxy table, converting the database operation into a format for invoking a particular method of the web service based upon the corresponding mapping;
 - invoking the particular method of the web service;
 - converting results obtained from invoking the particular method into data for use at the database based upon the corresponding mapping; ~~and~~
 - performing the database operation on the data at the database to generate a result set; and
 - returning the result set in response to the database operation.
2. (Original) The method of claim 1, wherein the web service comprises a service remotely available via a network.
3. (Original) The method of claim 1, wherein the web service has a Web Services Description Language (WSDL) interface.
4. (Original) The method of claim 3, wherein said creating step includes creating said at least one proxy table based upon the WSDL interface.
5. (Original) The method of claim 3, wherein said creating step includes substeps of:
 - obtaining the WSDL interface from the web service; and

creating said at least one proxy table based upon the WSDL interface.

6. (Original) The method of claim 1, wherein said creating step includes creating meta data identifying a particular method of the web service to be invoked when a database operation is received on a particular proxy table.

7. (Original) The method of claim 1, wherein said creating step includes mapping arguments of the method to fields of the proxy table.

8. (Original) The method of claim 1, wherein said creating step includes mapping arguments of the method to equivalent database data types.

9. (Original) The method of claim 1, wherein said creating step includes creating an object encapsulating the mapping of a web method to the database.

10. (Original) The method of claim 1, wherein said creating step includes storing the mapping between said at least one proxy table and methods of the web service.

11. (Original) The method of claim 10, wherein said step of converting results includes consulting the mapping for converting the results into data for application at the database.

12. (Currently amended) The method of claim 1, wherein the database operation includes ~~a selected one of a SELECT operation, an INSERT operation,~~ a JOIN operation and said step of performing the database operation includes joining data obtained from invoking the particular method of the web service with data stored in the database in generating the result set, ~~and a UNION operation.~~

13. (Original) The method of claim 1, wherein said step of converting the database operation includes binding data from the database operation to a Simple Object

Access Protocol (SOAP) call for invoking the particular method of the web service.

14. (Original) The method of claim 1, wherein said step of converting the database operation includes converting data from the database operation into Extensible Markup Language (XML) format.

15. (Original) The method of claim 1, wherein said step of converting the database operation includes creating a Simple Object Access Protocol (SOAP) request for invoking the particular method of the web service.

16. (Original) The method of claim 15, wherein said step of invoking the particular method includes transmitting the SOAP request to a remote web service.

17. (Original) The method of claim 1, wherein said step of invoking the particular method includes receiving results from the web service.

18. (Original) The method of claim 1, wherein said step of converting results includes converting results received in Simple Object Access Protocol (SOAP) format.

19. (Original) The method of claim 1, wherein said step of converting results includes converting results received in Extensible Markup Language (XML) format.

20. (Original) A computer-readable medium having processor-executable instructions for performing the method of claim 1.

21. (Original) A downloadable set of processor-executable instructions for performing the method of claim 1.

22. (Currently amended) A system for performing operations at a database on data obtained from a remote service, the system comprising:

a mapping module for creating database tables representing at least some methods of a remote service accessed through a defined interface;

an invocation module for converting a database operation on a database table representing a method of the remote service into a call for invoking the method;

a communication module for transmitting the call for invoking the method to the remote service, and returning result values from invoking the method to the database; and

a conversion module for converting result values received from the method into database format, performing the database operation on the converted result values to generate a database result set, and returning the database result set in response to the database operation.

23. (Original) The system of claim 22, wherein the remote service comprises an application available via a network.

24. (Original) The system of claim 22, wherein the defined interface comprises a Web Services Description Language (WSDL) interface.

25. (Original) The system of claim 24, wherein said mapping module creates the database tables based on the WSDL interface.

26. (Original) The system of claim 22, wherein said mapping module creates meta data identifying a particular method of the remote service to be invoked when an operation is received on a given database table.

27. (Original) The system of claim 22, wherein said mapping module maps arguments of a method to columns of a database table.

28. (Original) The system of claim 22, wherein each database table created by the mapping module represents a method of the remote service.

29. (Original) The system of claim 22, wherein said mapping module creates an object encapsulating the mapping of a method of the remote service to a database table.

30. (Original) The system of claim 22, further comprising:
a mapping repository for storing mappings between database tables and methods of the remote service.

31. (Original) The system of claim 30, wherein the conversion module consults the mapping repository for converting result values into database format.

32. (Currently amended) The system of claim 22, wherein the operation received on the database table comprises ~~a selected one of a SELECT operation, an INSERT operation,~~ a JOIN operation and said conversion module joins result values obtained from invoking the method with data stored in the database, and a UNION operation.

33. (Original) The system of claim 22, wherein said invocation module binds the data from the operation to a Simple Object Access Protocol (SOAP) call for invoking the method of the remote service.

34. (Original) The system of claim 22, wherein said invocation module converts data from the database operation into Extensible Markup Language (XML) format.

35. (Original) The system of claim 22, wherein said invocation module creates a Simple Object Access Protocol (SOAP) request for invoking the method of the remote service.

36. (Original) The system of claim 35, wherein said communication module sends the SOAP request to the remote service.

37. (Original) The system of claim 22, wherein said conversion module converts

result values received in Simple Object Access Protocol (SOAP) format into database data types.

38. (Original) The system of claim 22, wherein said conversion module converts result values received in Extensible Markup Language (XML) format into database data types.

39. (Currently amended) The system of claim 22, wherein said database operation received by the invocation module comprises a database query and said conversion module returns a database result set in response to said database query~~provides converted result values in response to the operation on the database table.~~

40. (Original) In a database system, a method for performing database queries on data available from an application, the method comprising:

establishing communication between a database and an application having an interface;

creating database tables to represent at least some functions of the application based on the interface, each database table corresponding to a function of the application;

in response to a database query received on a database table corresponding to a function of the application, generating input arguments expected by the function based on the database query;

invoking the function with the input arguments and receiving results from invoking the function;

converting the results into a database result set; and

returning the database result set in response to the database query.

41. (Original) The method of claim 40, wherein the application comprises a web service.

42. (Original) The method of claim 40, wherein the application comprises a

service available via a network.

43. (Original) The method of claim 40, wherein the interface comprises a Web Services Description Language (WSDL) interface.

44. (Original) The method of claim 40, wherein said step of creating database tables includes creating meta data identifying a particular function to be invoked when an operation is received on a given database table.

45. (Original) The method of claim 40, wherein said step of creating database tables includes mapping arguments of a given function to columns of the corresponding database table.

46. (Original) The method of claim 40, wherein said step of invoking the function includes binding data from the database query to a Simple Object Access Protocol (SOAP) call.

47. (Original) The method of claim 40, wherein said step of invoking the function includes converting data from the database query into Extensible Markup Language (XML) format.

48. (Original) The method of claim 40, wherein said step of invoking the function includes creating a Simple Object Access Protocol (SOAP) request for invoking the function.

49. (Original) The method of claim 48, wherein said step of invoking the function includes transmitting the SOAP request to a remote server.

50. (Original) The method of claim 40, wherein said step of invoking the function includes receiving results in Extensible Markup Language (XML) format.

51. (Original) The method of claim 40, wherein said step of invoking the function includes receiving results in Simple Object Access Protocol (SOAP) format.

52. (Original) The method of claim 40, wherein said step of converting the results includes converting results received in Simple Object Access Protocol (SOAP) format.

53. (Original) The method of claim 40, wherein said step of converting the results includes converting results received in Extensible Markup Language (XML) format.

54. (Original) A computer-readable medium having processor-executable instructions for performing the method of claim 40.

55. (Original) A downloadable set of processor-executable instructions for performing the method of claim 40.